

CURRICULUM VITAE
of
ALESSANDRA CELLETTI

PLACE AND DATE OF BIRTH

Rome (Italy), February 12, 1962

NATIONALITY

Italian

ACADEMIC DEGREES

Laurea in Mathematics: obtained on July 12, 1984 at the First University of Roma “La Sapienza”; with full marks: 110/110 cum Laude; referee: Prof. G. Gallavotti; title of the dissertation: “Application of the perturbation theory of Hamilton–Jacobi and stability KAM theory to some problems of Celestial Mechanics”

Ph.D. in Mathematics: obtained on June 29, 1989 at the Federal Institute of Technology (ETH), Zürich (Switzerland); referee: Prof. J. Moser, coreferee: Prof. J. Waldvogel; title of the dissertation: “Analysis of Resonances in the Spin–Orbit Problem in Celestial Mechanics”

ACTUAL POSITION

- Member of the Governing Board and Vice-President of “ANVUR - Italian National Agency for the Evaluation of Universities and Research Institutes” (2020-2024)
- Full Professor of Mathematical Physics at the Department of Mathematics, Università di Roma Tor Vergata.

PREVIOUS POSITIONS

- November 1999-January 2013: Associate Professor of Mathematical Physics at the Department of Mathematics, University of Roma Tor Vergata
- March 1990-October 1999: Associate Researcher of Mathematical Physics at the Department of Mathematics, University of L’Aquila.

AWARDS AND HONOURS

- Invited speaker at the “6th European Congress of Mathematics”, Krakow, Poland, July 2012
- Member of the “Celestial Mechanics Institute” (since 2010)
- President of the Commission 7 “Celestial Mechanics and Dynamical Astronomy”, International Astronomical Union (2018-2021)

- Correspondent and founding member of the Academia Cearense de Matematica, Brasil (2017-)
- President (2001-2013) of the Italian Society of Celestial Mechanics and Astrodynamics (SIMCA)
- The asteroid 2005 DJ1, n. 117539 bears the name “Alessandra Celletti”
- Finalist of the “First National competition” for scientific popular books, 2013
- Finalist of “Premio Galileo” for scientific popular books, May 2008
- Prize of the National Research Council for the young researchers abroad (June 1989)

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

1985 - UMI - Italian Mathematical Union

1985 - National Group of Mathematical Physics GNFM-INdAM

2001 - Italian Society of Celestial Mechanics and Astrodynamics (SIMCA)

2010 - Member of the “Celestial Mechanics Institute”

2012 - European Mathematical Society

2012 - Astronomical International Union

2017 - Academia Cearense de Matematica, Brazil

2018 MSRI Member (Fall 2018)

GRANTS

- In 2008, grant titled “Studi di esplorazione del sistema solare” from the Italian Space Agency
- In 2011, EU grant: Marie Curie Initial Training Network “Astronet-II” (2012-2016)
- In 2012, EU grant: Marie Curie Initial Training Network “Stardust” (2013-2017)
- In 2016, grant titled “Theoretical support to the study of the Laplace resonance” from the Italian Space Agency
- In 2016, grant titled “Theoretical support to the study of the Laplace resonance” from the Italian Space Agency
- In 2018, PI of the project “MIUR-Dipartimento di Eccellenza” MATH@TOV - Dip. Matematica, Univ. Tor Vergata (2018-2022)
- In 2018, H.E.R.M.E.S. Pathfinder High Energy Rapid Modular Ensemble of Satellites, MIUR-ASI-INdAM (2018-2021)
- In 2018, grant titled “Scientific activities JUICE space mission, phase C/D: study of Laplace resonance with particular reference to dissipative effects” from the Italian Space Agency (2018-2022)
- In 2019, PI of the PRIN National Project, funded by M.I.U.R. (2019-2022)
- In 2019, EU grant: Marie Curie Initial Training Network “Stardust” (2019-2024)

SCIENTIFIC AND ACADEMIC POSITIONS

- Member of the Governing Board and vice-President of “ANVUR - Italian National Agency for the Evaluation of Universities and Research Institutes” (2020-2024); delegate

for the evaluation of the research; coordinator of the VQR 2015-2019; member of the "Collegio per il controllo ai sensi dell'articolo 8 del Codice Etico dell'ANVUR".

- Director of the Department of Mathematics, University of Roma Tor Vergata, November 2015–October 2018
- Board of Directors of the Italian Space Agency, May 2019–February 2020
- Founder (in 2001) and President (2001-2013) of the SIMCA - Italian Society of Celestial Mechanics and Astrodynamics
- Elected Director (2013-2016) of the Scientific Council of the SIMCA - Italian Society of Celestial Mechanics and Astrodynamics
- Elected Member (2013-) of the Scientific Council of the SIMCA - Italian Society of Celestial Mechanics and Astrodynamics
- Director of the Post-graduate Course in "Space Science and Technology", University of Roma Tor Vergata (since 2009)
- Elected Member (2013-2016) of the Scientific Council of the Italian National Group of Mathematical Physics (GNFM)
- Elected Member (2016-) of the Scientific Council of the Italian National Group of Mathematical Physics (GNFM)
- Elected Member (2015-2018) of the Scientific Committee of the Unione Matematica Italiana (UMI)
- Elected vice-President (2015-2018) of the Organizing Committee "Celestial Mechanics" of the International Astronomical Union
- Member of the EMS/EWM Scientific Committee (since 2012)
- Chair of the Women in Mathematics/EMS Committee (since 2017)
- Member of the "Celestial Mechanics Institute" (since 2010)
- Member of the "Gruppo informale in materia di Scienze planetarie", ASI - Agenzia Spaziale Italiana, since 2015
- Member of the Senato Accademico University of Roma Tor Vergata (2001-2010)
- Member of the Scientific Committee at the Department of Mathematics, University of Roma Tor Vergata (since 2013-2016)
- Member of the advisory board of the project H2020 MSCA RISE "TraX - Transition and stability in physical processes" (2017-2021)

EDITORIAL TASKS

- Editor in chief of "Celestial Mechanics and Dynamical Astronomy" (since 2016)
- Associate editor of "Celestial Mechanics and Dynamical Astronomy", Springer (since 2006-2016)
- Member of the editorial advisory board of the "Journal of Nonlinear Mechanics", Elsevier (since 2014)
- Member of the editorial board of the "Revista Matemática Complutense", Springer (since 2015)

- Associate editor of “Electronic Research Announcements in Mathematical Sciences (ERA-MS)” (2017-2019)
- Managing Editor of the Journal of the Italian Mathematical Union “La Matematica nella Società e nella Cultura” (2015-2021)
- Associate Editor of the Journal of the Italian Mathematical Union “La Matematica nella Società e nella Cultura” (since 2013)
- Associate editor of “Scholarpedia, Category: Celestial Mechanics” (since 2009)
- Associate editor of “Maddmaths!” (since 2012)

SCIENTIFIC INTERESTS (Lecturer on the following topics):

- Perturbation theory and stability of nearly-integrable Hamiltonian systems
- KAM theory and computer-assisted proofs
- Dynamics of nearly-integrable systems with dissipation
- Invariant attractors in dissipative systems
- The N -body problem in Celestial Mechanics
- Rotational dynamics in Celestial Mechanics
- Low-energy trajectories in Astrodynamics
- Regularization theory: singularities and collisions
- Chaos theory and numerical indicators
- Complex singularities of KAM surfaces
- Resonances in Celestial Mechanics
- Space debris and asteroid dynamics
- Orbit determination (Gauss and Laplace methods).

INVITED SPEAKER AT CONGRESSES AND SCHOOLS (partial list):

- Computer-assisted proofs in analysis, Oberwolfach, Germany, 4–10 March 1990
- Systemes Dynamiques Discrets, Aussois, France, 11–17 February 1996
- Astronomy and Astrophysics, organized by the Vatican Observatory (Specola Vaticana), Castelgandolfo, Roma (Italy), 15-21 June 1998
- Conference in honor of the 60–th birthday of Prof. J. Waldvogel, Swiss Polytechnic Institute (ETH), Zürich, Swiss, 1998
- “Singularités dans les systèmes gravitationnels”, Arc2000, France, 12–18 March 2000
- 5th Alexander von Humboldt colloquium for Celestial Mechanics “New developments in the dynamics of planetary systems”, BadHofgastein, Austria, 19–23 March 2000
- NATO School “The Restless Universe: Applications of Gravitational N-Body Dynamics to Planetary, Stellar and Galactic Systems”, Blair Atholl, Scotland, 23 July – 5 August 2000
- “Dynamical systems: classical, quantum, stochastic”, Teulada (Cagliari), Italy, 23–30 September 2000
- NATO School “Chaotic worlds: from order to disorder in N–body gravitational systems”, Cortina d’Ampezzo, Italy, 8–20 September 2003

- School “Analyse harmonique et approximation rationnelle: leurs rôle en théorie du signal, du contrôle et des systèmes dynamiques”, Porquerolles, France, 14–20 September 2003
- Workshop “The rotation of celestial bodies”, Namur, Belgium, 1–2 December 2005
- “Atelier de Mécanique Céleste”, Aussois, France, 12–17 March 2006
- “Dynamics, Topology and Computations”, Bedlewo, Poland, 4–10 June 2006
- “7th Alexander von Humboldt Colloquium”, Bad Hofgastein, Salzburg, Austria, 30 March–5 April 2008
- “International Conference on the Dynamics of Celestial Bodies”, Litochoro, Greece, 23–26 June 2008
- “Conference on Stability and Instability in Mechanical Systems: Recent Progress and Mathematical Theory”, Barcelona, Spain, 22–26 September 2008
- “KAM theory and applications”, Leiden, The Netherlands, 1–5 December 2008
- “Convegno Astronomia: storia e cultura”, Campobasso, Italy, 21 May 2009
- “Dynamics, Topology and Computations”, Bedlewo, Poland, 31 May – 6 June 2009
- “La dynamique des systèmes gravitationnels: défis et perspectives”, Aussois, France, 28 June – 4 July 2009
- Assembla GNFM, Montecatini, Italy, 1–3 October 2009
- “Classical and weak KAM theorem”, Montegrotto, Italy, 14–19 February 2010
- “SIAM conference”, Barcelona, Spain, 31 May – 5 June 2010
- “Scuola estiva di fisica matematica del GNFM”, Ravello, Italy, 13–25 September 2010
- “Dynamical Days”, Calatayud, Spain, 4 – 6 November 2010
- “Sistemi dinamici nonlineari e applicazioni”, Pisa, Italy, 18–19 February 2011
- “8th Alexander von Humboldt Colloquium – Resonances in n-body systems”, Bad Hofgastein, Salzburg, Austria, 20–26 March 2011
- “XVI Conference on Waves and Stability in Continuous Media – WASCOM”, Brindisi, Italy, 13–17 June 2011
- “Stabilità ed Analisi Qualitativa nei Sistemi Dinamici”, Levico Terme, Italy, 4–5 October 2011
- “I LINCEI PER LA SCUOLA”, Lezioni Lincee di Matematica con Applicazioni alla Meccanica Celeste e alla Relatività, Roma, Italy, 18 October 2011
- Invited lecture “6th European Congress of Mathematics”, Cracow, Poland, 2–7 July 2012
- Invited speaker at the “First International Conference on Dynamics of Differential Equations”, Georgia Tech, Atlanta, USA, 15–20 March 2013
- “Planetary Motions, Satellite Dynamics, and Spaceship Orbits”, Montreal, Canada, 22–26 July 2013
- Invited speaker at “Celestial, Molecular, and Atomic Dynamics (CEMAD-2013)”, PIMS - Pacific Institute for the Mathematical Sciences, Victoria, Canada, 29/7-2/8/2013
- Invited speaker workshop “Symplectic techniques in topology and dynamics”, Cologne (Germany), 22-26 September 2014
- Invited speaker “International Workshop in Astronomy and Dynamics”, Observatoire de Paris, 28-30 April 2015

- Invited speaker “Integrability in Mechanics and Geometry: Theory and Computations”, ICERM, Brown University, 1-5 June 2015
- Invited speaker “Global Dynamics in Hamiltonian Systems”, Nuria (Spain), 28 June - 4 July 2015
- “13th winter school in Dynamical Systems of the DANCE (Dinámica, Atractores y No linealidad: Caos y Estabilidad) Spanish network”, Siviglia (Spagna), 25-29 January 2016
- “Mini-course on Dynamics and Differential Equations”, Lisbona (Portugal), 29-30 March 2016
- “The Dynamics of Complex Systems: A meeting in honour of the 60th birthday of Robert MacKay”, Warwick (UK), 18-20 May 2016
- “Computational perturbative methods for Hamiltonian systems”, Athens (Greece), 11-13 July 2016
- “7ECM - European Congress of Mathematics”, EWM Public talk, Berlin (Germany), 18-22 July 2016
- Workshop “Chaotic phenomena in mathematical models”, Centro De Giorgi, Scuola Normale Superiore, Pisa, 9-10 Settembre 2016
- “9th Humboldt Colloquium on Celestial Mechanics, Bad Hofgastein, 20-25 March 2017
- “WASCOM 2017 - XIX International Conference on waves and stability in Continuous media, Bologna, 12-16 June 2017
- “LLAVEFEST: A broad perspective on finite and infinite dimensional Dynamical Systems, Barcelona, 12-16 June 2017
- “FoCM 2017 - Workshop Computational Dynamics, Barcelona, 13-15 July 2017
- “Mini-workshop in Celestial Mechanics”, Torino, 17-18 December 2017
- “Festa di Scienza e di Filosofia”, Foligno, 26-29 Aprile 2018
- “Perspectives in Hamiltonian Dynamics”, Venezia, 18-22 Giugno 2018
- “Connections for Women: Hamiltonian Systems, from topology to applications through analysis”, MSRI, Berkeley (USA), August 2018
- “Introductory Workshop: Hamiltonian systems, from topology to applications through analysis”, MSRI, Berkeley (USA), August 2018
- “Between Mathematics and Astronomy”, Pisa (Italy), September 2018
- “DinAmici”, Accademia Nazionale dei Lincei, Rome (Italy), December 2018
- “Current Trends in Mathematics”, Zürich (Switzerland), March 2019
- “Interactions of symplectic topology and dynamics”, Cortona (Italy), June 2019
- “New Trends in Celestial Mechanics”, Cogne (Italy), June 2019
- “On the Trail of Women in Mathematics: conference in honor of Sofia Kowalewska, Cracow, 31 August-2 September 2019
- “Stardust-R Opening Training School”, Glasgow, 2-7 December 2019
- “40 years of the Mathematics department”, University of Catania, Italy, November 2019
- “I-CELMECH Training School”, Milano, Italy, 3-7 February 2020
- “DDA - Division on Dynamical Astronomy meeting, Arizona, USA, 5 August 2020

- “The Global Virtual Workshop I - Stardust-R”, 7-20 September 2020
- “Perspektywy Women in tech Summit 2020”, 8-9 December 2020
- “Mini-workshop ASI-Tor Vergata”, Rome, Italy, 21 May 2021
- “CIRM Conference ”Analysis, Control, and Numerics for PDE Models of Interest to Physical and Life Sciences”, Levico Terme, 20-24 September 2021
- “Conference Regular & Chaotic Dynamics”, Moscow, Russia, 22 November-3 December 2021
- During the COVID-19 time, invited to deliver virtual seminars at different institutions worldwide, e.g. Paris Dynamical Seminar (France), Maryland Dynamics Seminar (USA), Mathematical Physics Seminar at Yeshiva University, New York (USA), Nanjing University (China)

ORGANIZATION OF CONGRESSES, WORKSHOPS AND SCHOOLS:

- 1) Workshop “Sistemi Dinamici”, Dipartimento di Matematica, Università di L’Aquila, 13–16 Maggio 1991, in collaboration with P. Negrini and A. De Masi.
- 2) Workshop “Incontro sul Caos” at the Dipartimento di Matematica, Università di L’Aquila, 26–27 Novembre 1992, in collaboration with D. Benedetto and G. Paladin.
- 3) “Primo Convegno Nazionale di Meccanica Celeste CELMEC” at the Dipartimento di Matematica, Università di L’Aquila, 24–27 Maggio 1993. Scientific Committee: G. Gallavotti (Università di Roma ”La Sapienza”), A. Milani (Università di Pisa), A. Celletti. Organizing Committee: A. Celletti, E. Perozzi (Telespazio, Roma).
- 4) “Secondo Convegno Nazionale di Meccanica Celeste”, Scuola Superiore “G. Reiss Romoli”, L’Aquila, 21–24 Aprile 1997. Scientific Committee: A. Celletti, A. Milani (Università di Pisa), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 5) Member of the Scientific Committee of the “Troisième Atelier formation d’hiver d’Arc 2000”, “Singularities dans les systemes gravitationnels application au transport chaotique dans le systeme solaire”, Arc2000, France, 12–18 March 2000.
- 6) “Regular and unstable motions in Hamiltonian system”, Roma, 6–9 September 2000, Organizing Committee: A. Celletti, L. Chierchia (Roma Tre), C. Liverani (Roma Tor Vergata), G. Mancini (Roma Tre).
- 7) “Third Meeting on Celestial Mechanics - CELMEC III”, Villa Mondragone, Monte Porzio Catone (Roma), 18-22 Giugno 2001, Organizing Committee: A. Celletti, A. Milani (Università di Pisa), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 8) “Perspectives in Mathematical Physics”, Roma, 4–7 September 2002, Organizing Committee: G. Benettin (Univ. Padova), G. Benfatto (Univ. Roma Tor Vergata), F. Bonetto (IAS, Princeton), M. Cassandro (Univ. Roma ”La Sapienza”), A. Celletti (Univ. Roma Tor Vergata), R. Esposito (Univ. L’Aquila), C. Falcolini (Univ. Roma Tre), A. Giorgilli (Univ. Milano), V. Mastropietro (Univ. Roma Tor Vergata).
- 9) Member of the Scientific Committee of the school “Analyse harmonique et approximation rationnelle: leurs rôle en théorie du signal, du contrôle et des systèmes dynamiques”, Porquerolles (France), 14–20 September 2003.

- 10)** “Fourth Meeting on Celestial Mechanics - CELMEC IV”, San Martino al Cimino (Viterbo), 11-16 September 2005; Organizing Committee: A. Celletti, A. Milani (Università di Pisa), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 11)** “Theory and Applications of Dynamical Systems”, Spoleto (Perugia, Italy), 24–28 June 2007; Organizing Committee: A. Celletti (co-chair), E. Lega (co-chair), F. Namouni (co-chair), D. Benest (Osservatorio di Nizza), A. Giorgilli (Università di Milano), M. Guzzo (Università di Padova), D. Laveder (Osservatorio di Nizza), G. Valsecchi (INAF–IASF, Roma).
- 12)** Member of the Scientific Committee of the “7th Alexander von Humboldt Colloquium for Celestial Mechanics – The chaotic dynamics of small bodies and planets”, Bad Hofgastein, Salzburg, Austria, 30 March – 5 April 2008.
- 13)** “Fifth Meeting on Celestial Mechanics - CELMEC V”, 6–12 September 2009; Organizing Committee: A. Celletti, A. Giorgilli (Università di Milano), E. Perozzi (Telespazio, Roma), G.B. Valsecchi (CNR, Roma).
- 14)** “Women and Space”, 8 Ottobre 2009, Accademia Nazionale dei Lincei, Roma (Italy); Organizing Committee: V. Baldoni (Univ. Roma Tor Vergata), A. Celletti, A. Coradini (INAF/IFSI), E. Strickland (Univ. Roma Tor Vergata).
- 15)** Colloquium at the Dipartimento di Matematica, Università di Roma Tor Vergata: Prof. Alain Chenciner (Université Paris VII), May 2006, Prof. Jean-Christophe Yoccoz (College de France, Fields Medal 1994) November 2010.
- 16)** Member of the Scientific Committee of the “8th Alexander von Humboldt Colloquium for Celestial Mechanics – The chaotic dynamics of small bodies and planets”, Bad Hofgastein, Salzburg, Austria, 20–26 March 2011.
- 17)** “Frontiers of Space Science: from Solar Activity to NEOs”, L’Aquila (Italy), 17–22 April 2011, co-directed with F. Berrilli, E. Flamini, D. Müller, E. Perozzi.
- 18)** “CELMEC VI - 6th International Meeting in celestial Mechanics”, 1–7 September 2013, S. Martino al Cimino (Viterbo, Italy), in collaboration with A. Giorgilli (Università di Milano), G.F. Gronchi (Università di Pisa), E. Perozzi (Telespazio, Roma).
- 19)** Scientific director of the workshop “Mathematical models and methods for Planet Earth”, INdAM, 27–29 May 2013, in collaboration con U. Locatelli (Univ. Roma Tor Vergata), T. Ruggeri (Univ. Bologna), E. Strickland (Univ. Roma Tor Vergata).
- 20)** Member of the Scientific and Organizing Committee of the workshop “Planetary Motions, Satellite Dynamics, and Spaceship Orbits”, Montreal, 22–26 July 2013, in collaboration with Walter Craig (McMaster University), Florin Diacu (University of Victoria), Jacques Fejoz (Paris VI), Anatoly Neishtadt (Loughborough University), Christiane Rousseau (Montreal University).
- 21)** Member of the Scientific Committee of the IAU Symposium IAUS 310 “Complex Planetary Systems (CPS)”, University of Namur (Belgio), 7-11 July 2014
- 22)** Stardust Second Training School “Astrodynamics of NEO and Space debris”, Roma, 8-12 September 2014, in collaboration with F. Gachet, I. Gkolias, G. Pucacco, A. Rossi.
- 23)** The 17th EWM general meeting, Cortona (Italy), from 31-8-2015 to 4-9-2015, co-

organizer with Lisbeth Fajstrup, Colette Guillopé, Angela Pistoia, Marie-Francoise Roy, Susanna Terracini (chair)

24) Sessione di Fisica Matematica, XX Congresso UMI Unione Matematica Italiana, Siena, 7-12 September 2015

25) Mini-Symposium: Resonances and chaos in Earths orbit, Stardust Final Conference on Asteroids and Space Debris, ESTEC, Netherlands, 31st Oct 2016 - 4th Nov 2016, co-organizzatore assieme a Giuseppe Pucacco, Alessandro Rossi

26) Scientific Committee of the “9th Humboldt Colloquium on Celestial Mechanics, Bad Hofgastein, 20-25 March 2017

27) Co-organizer of the school “Satellite Dynamics and Space Missions: Theory and Applications of Celestial Mechanics, San Martino al Cimino (VT), 28/8-2/9-2017

28) Co-organizer of the “CELMEC VII - The Seventh International Meeting on Celestial Mechanics, San Martino al Cimino (VT), 3-9 September 2017

29) Scientific Committee of “Analysis and Dynamics: Conference in occasion of Luigi Chierchia’s 60’ Birthday” Marina di San Gregorio, Lecce 12-15 October 2017

30) Scientific Committee of the PISA-HOKKAIDO-ROMA2 Summer School on Mathematics and Its Applications 2018, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, 27 August 2018 - 8 September 2018

31) Scientific Committee of the workshop “Hamiltonian systems, from topology to applications through analysis I”, MSRI, Berkeley, 8-12 October 2018

32) Scientific Committee of the workshop “Hamiltonian systems, from topology to applications through analysis II”, MSRI, Berkeley, 26-30 November 2018

33) Scientific and Organizing Committee of the workshop “Dynamical Systems: from geometry to mechanics”, Rome, 5-8 February 2019

34) Scientific and Organizing Committee of the workshop “Mathematical Models and Methods in Earth and Space Sciences”, Rome, 19-22 March 2019

35) Scientific Committee of the workshop “New Trends in Celestial Mechanics”, Cogne, Valle d’Aosta, Italy, 24-28 June 2019

36) Scientific Committee of “I-CELMECH Training School”, Milano, 3-7 February 2020

37) Scientific and Organizing Committee of the Training School III of the Stardust-R project on “Space Environment Stability and Resilience”, Iasi (Romania), 15-19 March 2021

38) Scientific Organising Committee of the IAU Symposium n. 364 “Multi-scale (time and mass) dynamics of space objects”, Iasi (Romania), 18-22 October 2021

MISCELLANEA

- Selected by Fondazione Bracco as one of the 100 Experts <https://100esperte.it/>
- Selected by the magazine “D-Donna Repubblica” as one of the first 10 women of the year 2019

- Selected by the magazine “Forbes” as one of the first 100 Italian successful women in 2020.